

SEQ ID NO:29	(gi 3080420)	1	MSGAVLVAIAAAVGNLLQGWDNATIAGAVLYIKKEFNLESPSVEGLIVAMSLIGATLIT	60
SEQ ID NO:2			MGGAVMVAIAASI GNLLQGWDNATIAGAVLYIKKEFNQSEPLIEGLIVAMFLIGATVIT	
SEQ ID NO:4			MAGAVLVAIAASI GNLLQGWDNATIAGAVLYIKKEFNHSDPLIEGLIVAM-----	
SEQ ID NO:6			-----	
SEQ ID NO:8			MKGAVLVAIAASI GNFLQGWDNATIAGANGYIKKDLALGT--MERLVVGMSLIGATVIT	
SEQ ID NO:10			-----	
SEQ ID NO:12			MSGAALVAIAASI GNLLQGWDNATIAGAVLYIKKEFQLENNPTVEGLIVA-----	
SEQ ID NO:14			-----	
SEQ ID NO:16			-----	
SEQ ID NO:29	(gi 3080420)	61	TCsggvadwlgrrpmlilssilyfvgslvmlwspnvvylllgRLldgfgvqlvvtlvpiy	120
SEQ ID NO:2			TSpgpradcvgrrpmlvasAVLYFVSGLVMLWAPIVYIILLIARLldgfgiglavtlvpily	
SEQ ID NO:4			-----	
SEQ ID NO:6			-----	
SEQ ID NO:8			tcsdpiadwlgrrpmmiissvlyflgglvmlwspnvvyvclarlldgfgiglavtlvpvy	
SEQ ID NO:10			-----	
SEQ ID NO:12			-----	
SEQ ID NO:14			-----	
SEQ ID NO:16			-----	
SEQ ID NO:29	(gi 3080420)	121	isetapp-eirGLLNTLPQFTG-SGGMFLSYCMVFGMSLMPSPSWRLMLGVLFIPSLVFF	180
SEQ ID NO:2			isetaphrxswGXXNTLPQFIGVXGGMFLSYCMVFGMSLMPKPDWRLMLGVLSIPSLXYF	
SEQ ID NO:4			-----S--LI-----GAT-----I-----	
SEQ ID NO:6			-----	
SEQ ID NO:8			isetaps-eirGSINTLPQFSG-SGGMFLSYCMVFGMSLSPAPSWRLMLGVLSIPSLLYF	
SEQ ID NO:10			-----	
SEQ ID NO:12			-----	
SEQ ID NO:14			-----	
SEQ ID NO:16			-----	

FIG. 1A

SEQ ID NO:29	(gi 3080420)	181	240
SEQ ID NO:2			
SEQ ID NO:4			
SEQ ID NO:6			
SEQ ID NO:8			
SEQ ID NO:10			
SEQ ID NO:12			
SEQ ID NO:14			
SEQ ID NO:16			
-----			
SEQ ID NO:29	(gi 3080420)	241	300
SEQ ID NO:2			
SEQ ID NO:4			
SEQ ID NO:6			
SEQ ID NO:8			
SEQ ID NO:10			
SEQ ID NO:12			
SEQ ID NO:14			
SEQ ID NO:16			
-----			
SEQ ID NO:29	(gi 3080420)	301	360
SEQ ID NO:2			
SEQ ID NO:4			
SEQ ID NO:6			
SEQ ID NO:8			
SEQ ID NO:10			
SEQ ID NO:12			
SEQ ID NO:14			
SEQ ID NO:16			
-----			

FIG. 1B

SEQ ID NO:29	(gi 3080420)	361	LVGEDEDYPSD----	420	LGDDSEDDLHSPILSRQTTSM--KDMPTAH--GTLSTFRHGSQV
SEQ ID NO:2			LHRDDEEYASD----		GAGGDYEDNLHSPILSRQATGAEGKDIVHHGHRGALSRRQS--L
SEQ ID NO:4			-----		-----
SEQ ID NO:6			-----		-----
SEQ ID NO:8			LQREDYMSDATRG----		DSDDNLHSPILSRQTTSL--KDLPPPSHGSILGSMRRHSSL
SEQ ID NO:10			LAREGDDYVSDA--G----		DSDDNLQSPILSRQTTSLD-KDIPPHAH--SNLASMRQGSLL
SEQ ID NO:12			-----		-----
SEQ ID NO:14			-----		-----
SEQ ID NO:16			-----		-----
SEQ ID NO:29	(gi 3080420)	421	QGAQGEAGSMGIGGGWQVANKWTEREDESQKEEGF----	480	PGSRRGSIVSLPG
SEQ ID NO:2			LCEGGDVSSTDIGGGWQLAWKWSEKEGEGNGRKEGGFKRVYLHQEGVPGSRRGSIVSLPG		-----
SEQ ID NO:4			-----		-----
SEQ ID NO:6			-----		-----
SEQ ID NO:8			MQSGEQGGSTGIGGGWQLAWKWTDK-GEDGKQGGFKRIYLHEEGVSAASRRGSIVSLPG		-----
SEQ ID NO:10			HGNSGEPTGSTGIGGGWQLAWKWSEREGPDGKKEGFKRIYLHQDGGSGSRRGSIVSLPG		-----
SEQ ID NO:12			-----		-----
SEQ ID NO:14			---GGEAVSSTGIGGGWQLAWKWSERQGEDGKKEGFKRIYLHQEGVADSRRGSVVSLPG		-----
SEQ ID NO:16			-----		-----
SEQ ID NO:29	(gi 3080420)	481	GDGTGEA--DFVQASALVSPALYSKDLLKEHT-IGPAMVHPSE-TTKGSIWHDLDHPGV	540	GGDVLEGS-EFVHAAALVQSALFSKGLAEPRM-SDAAMVHPSEVAAKGSRWKDLFEPGV
SEQ ID NO:2			-----		-----
SEQ ID NO:4			-----		-----
SEQ ID NO:6			-----		-----
SEQ ID NO:8			EG-----EFVQAAALVSPALYSKELIDGH-PVGPAMVHPSETASKGPSWKALLEPGV		-----
SEQ ID NO:10			GDLPTD--SEVVQAAALVSPALYNEDLMRQR-PVGPAMIHPSETIAKGPSWSDLFEPGV		-----
SEQ ID NO:12			-----		-----
SEQ ID NO:14			GGDATQCGSGFIHAAALVSHSALYSKDLMEERMAAGPAMIHPLAAPKGSIWKDLFEPGV		-----
SEQ ID NO:16			-----		-----EPGV

FIG. 1C

```

541                                600
KRALVVGVLQILQQESGINGVLYYTPQILEQAGVGILLNMGISSSSASLISALTTFV
RRALLVGVGIQILQQFAGINGVLYYTPQILEQAGVAVILSKFGLSSASASLISLTTLL
-----VL-----
KHALVVGVIQILQQESGINGVLYYTPQILEEAGVEVLLSDIGIGSESASFISATTFI,
KHALIVGVGMQILQQESGINGVLYYTPQILEQAGVGILLSSGLGSTSSSFLISAVTTLL
-----
RRALFVGVIQMLQQFAGINGVLYYTPQILEQAGVAVLLSNLGLSSASASLISLTTLL
KHALFVGIGLQILQQFAGINGVLYYTPQILEQAGVGILLSNLGLSSASASLISALTLL

601                                660
MLPAIAVAMRLMDLGRRTLLTTPILIASLIVLVISNLVHMNSIVHAVLSTVSVVLYF
MLPCIGFAMLLMDLGRRFLLLTTPILIASLIVLVSNLIDLGLTAHALLSTISVIVYF
-----
MLPCIGVAMKLMDSGRRQLLTTPVLIVSLIILVIGSLVNFENVAAHAAISTVCVVYF
MLPCIAIAMRLMDISGRRTLLLTTPVLIAALLIIVLGLSLVDLGSANASISTISVIVYF
-----
MLPSIGVAMRLMDISGRRFLLLTTPILIASLIVLVGNVINLSTVPHAVLSTVSVIVYF
MLPSIGIAMRLMDMSGRRFLLLTTPVLIVAVLVLVNLVDVGMTVHAAALSTISVIVYF

661                                720
CFFVMGFGPAPNILCSEIFPTRVRGICIAICALTFWICDIIIVTYSLPVLLKSLAGVFG
CCFVMGFGPIPNILCAEIFFPTRVRGLCIACAFTFWIGDIIIVTYSLPVMLNAIGLAGVFS
-----
CFFVMGFGPIPNILCAEIFFPTRVRGICIAICALTFWIGDIIIVTYSLPVMLNAIGLAGVFG
CCFVMGYGPIPNILCSEIFPTRVRGLCIAICALVFWIGDIIIVTYSLPVMLGSLGLGVFA
CCFVMGFGPIPNILCAEIFFPTRVRGLCIAICALTFWICDIIIVTYSLPVMLNSVGLAGVFG
-----
CCFVMGFGPIPNILCAEIFFPTRVRGVCAICALTFWICDIIIVTYSLPVMLNAIGLAGVFG
CCFVMGFGPIPNILCAEIFFPVSVRGICIAICALTFWIGDIIIVTYSLPVMLNAIGLAGVFG

```

FIG. 1D

SEQ ID NO:29	(g1 3080420)	721	
SEQ ID NO:2			767
SEQ ID NO:4			
SEQ ID NO:6			
SEQ ID NO:8			
SEQ ID NO:10			
SEQ ID NO:12			
SEQ ID NO:14			
SEQ ID NO:16			

  

MYAIVCCISWVFVFIKVPETKGMPL	EVITEFFSVGARQAEAA	--KNE
IYAVVCLISFVFVFLKVPETKGMPL	EVITEFFAVGAKQAAA	--KA
IYAVVCILAFLEVFVFMKVPETKGMPL	EVITEFFSVGAKQ-AKE	----
IYAVVCFISWIFVFLKVPETKGMPL	EVISEFFSVGAKQAASA	--KNE
IYAVVCFIAWVFVFLKVPETKGMPL	EVIEFFSVGAKQFDDA	--KHN
IYAVVCCIAFVFVYVFLKVPETKGMPL	EVITEFFAVGAKQ-AQA	--TIA
IYAVVCVLAFFVFVYVFMKVPETKGMPL	EVITEFFSVGAKQ-GKE	--ATD

FIG. 1E

SEQ ID NO:30	1	MSEG-----TNKAMSDPPPTTASKVIA--DF-DPIKKPPKRN---KFAFACAT	60
SEQ ID NO:18		SR-----AQSEPSTMASA--PL--PAAIEPGKKGNVKFAFACXI	
SEQ ID NO:20		M-----ASD--ELAK--AVEPRKKGNVKYASICAI	
SEQ ID NO:22		-----MASA--AL--PEAVAPKKKKGNVRFACAI	
SEQ ID NO:24		MTEG-----KLVEAAEAH-----KTLQ--DF-DPPKKR--KRN---KYAFACAM	
SEQ ID NO:26		-----MDRA--AL--PAAVEPKKKGNVRFACAI	
SEQ ID NO:28		MKMS-----PERKGAEDKEEGSRMASA--ALPEGAVHPRNKGNEKYAFTCAI	
SEQ ID NO:30	61	LASMTSVLLGY-----DIGVMSGAIYILKEDWHISDTQIGVLVG	120
SEQ ID NO:18		LASMTSILLGY-----DIGVMSGASLYIKKDLKISDVKLEILMG	
SEQ ID NO:20		LASMASVILGY-----DIGVMSGAAAMYIKKDLNITDVQLEILIG	
SEQ ID NO:22		LASMTSILLGY-----DIGVMSGASLYIKKDFNISDGKVEVIMG	
SEQ ID NO:24		LASMTSILLGY-----DIGVMSGAAIYIKRDLKVSDEQIEILLG	
SEQ ID NO:26		LASMTSILLGY-----DIGVMSGASLYIQKDLKINDTQLEVLMG	
SEQ ID NO:28		CASMATIVILGY-----DVGVMSGASLYIKRDLQITDVQLEIMMG	
SEQ ID NO:30	121	ILNIYCLFGSFAAGRTSDWIGRRYTIIVLAGAIFVVGALLMGFATNYAFIMVGRFVTGIGV	180
SEQ ID NO:18		ILNVYSLIGSXAAGRTSDWIGRRXTIVFAAVIFFAGAXLMGFVAVNYWMLMFGRFVAGIGV	
SEQ ID NO:20		ILSLYSLFGSFAGARTSDRIGRRRLTVVFAAVIFFVGSLLMGFAVNYGMLMAGRFVAGVGV	
SEQ ID NO:22		ILNLVSLIGSFAAGRTSDWIGRRYTIIVFAAVIFFAGXFLMGFAVNYAMLMFGRFVAGIGV	
SEQ ID NO:24		IINLYSLIGSCLAGRTSDWIGPRYTIIVFAGTIFFVGALLMGFSPNYSELMFGRFVAGIGI	
SEQ ID NO:26		ILNVYSLIGSFAAGRTSDWIGRRFTIVFAAVIFFAGALIMGFSVNYAMIMFGRFVAGIGV	
SEQ ID NO:28		ILSVYALIGSFIGARTSDWVGRRVTIVVFAAAIFNNGSLLMGFAVNYAMIMVGRFVTGIGV	

FIG. 2A

SEQ ID NO: 30	181	GYALMIAPVYTAEVSPASSRGFLTSPFEVFINAGILLGYISNLAFSSLP <sup>240</sup> THLSWRFMLGI
SEQ ID NO: 18		GYALMIATVYTAEVSPXSARGFLTSPFEVI-----
SEQ ID NO: 20		GYGGMIAPVYTAEISPAASRGFLTTFPEVFINIGILLGYLSNFAFARLP <sup>240</sup> HLGWRVMLAI
SEQ ID NO: 22		GYALMIAPVYTAEVSPASARGFLTSPFEVFINFGILLGYVSNYAFSRLPLNLGWRIMLGI
SEQ ID NO: 24		GYALMIAPVYTAEVSPASSRGFLTSPFEVFINGGILLGYISNYAFSKLT <sup>240</sup> LKVGRMMLGV
SEQ ID NO: 26		GYALMIAPVNTGEVSPASARGVLTSPFEVFINFGILLGYVSNFAFARLS <sup>240</sup> RLGWRIMLGI
SEQ ID NO: 28		GYAIMVAPVYTPDEVSPASARGFLTSTFEVFINVGILLGYVSNYAFARLP <sup>240</sup> HLGWRVNLGI
SEQ ID NO: 30	241	GAIPSI <sup>300</sup> FLAIGVLAMPESPRWLVMQGRGLDAKKVLNRI SDSPEEAQLRLSEIKQTAGIPA
SEQ ID NO: 18		-----
SEQ ID NO: 20		GAVPSGLLALLVFCMPESPRWLVLKGRLLADARAVLEKTSATPEEAAERLADI <sup>300</sup> KAAAGIPK
SEQ ID NO: 22		GAAPSVLLALMVLGMPESPRWLVMKGRLLADAKVLEKTSDTAEAAERLADI <sup>300</sup> KAAAGIPE
SEQ ID NO: 24		GAIPSVLLTVGVLAMPESPRWLVMRGRLLGEARKVLNKTSDSKEEAQLRLAEIK <sup>300</sup> QAAAGIPE
SEQ ID NO: 26		GAVPSVLLAFMVLGMPESPRWLVMKGRLLADAKVVLAKTSDTPEEAAERIA <sup>300</sup> DIKTAAGIPL
SEQ ID NO: 28		GAVPSALLALMVFGMPESPRWLVMKGRLLADARAVLAKTSDTPEEAAERL <sup>300</sup> DIKAAAGIPR
SEQ ID NO: 30	301	ECDEDIYKVEKTKIKSGNA-VWKELFFENPTPAVRRRAVIAGIGIHFFQ <sup>360</sup> QASGIDAVVLYSP
SEQ ID NO: 18		-----
SEQ ID NO: 20		GLDGDVVTVPGKEQGGGELQVWKKLILSPTPAVRRRILLSAVGLHFFQ <sup>360</sup> QASGSDSVVQYSA
SEQ ID NO: 22		ELDGDVVTVPK-RGSGNEKRVWKELILSPTPAMRRRILSGIGIHFFQH <sup>360</sup> ALGIHSVVFYSP
SEQ ID NO: 24		SCNDDVVQVNVKQS--NGEG-VWKELFLYPTPAIRHIVIAALGIHFFQ <sup>360</sup> QASGVDVAVVLYSP
SEQ ID NO: 26		GLDGDVVVPVKNKGSSEKRVLKDILSPTIAMRRHILIAIGIGIHFFQ <sup>360</sup> QSSGIDAVVLYSP
SEQ ID NO: 28		ELDGDVVVMP-KTKGGQEKQVWKELIFSPTPAMRRRILIAALGIHFFQ <sup>360</sup> QATGSDSDSVVLYSP

FIG. 2B

SEQ ID NO:30	361	RI FQ SAGITNARKQLLATVAVGVVKTTLFILVATFOLDKYRRRPLLLTTSVGGMI IAILTLA	420
SEQ ID NO:18		-----	
SEQ ID NO:20		RLFKSAGITDDNKL LGVTCAVGVTKTFFILVATFLLDRAGRRPLLLIISTGGMIVSLICLG	
SEQ ID NO:22		LVEKSPGLTNDKHFLGTTWPFQVTKRLLFI LLATFFIDGVGRRRPLLLIGSTGGIILSLIGLG	
SEQ ID NO:24		RI FEKAGITNDTHKLLATVAVGVFVKTVFI IAAATFLLDRVGRRPLLLSSVGGMVLSLLTLA	
SEQ ID NO:26		LVEKSAGITGDSRLRGTTAVGATNTVFI I VATFLLDRIRRRPLVLTSTGGMIVSLVGLA	
SEQ ID NO:28		RVFQ SAGITGDNHLLGATCAMGVMTLFI L VATFQLDRVGRRPLLLTSTAGMLACLIGLG	
SEQ ID NO:30	421	MSLTVID-HSHHKITWAIALCITMVCVVASF SIGLGPI TWVYSSEVFPLRLRAQGTSMG	480
SEQ ID NO:18		-----	
SEQ ID NO:20		SGLTVAGHHPTKVAVAVAVALCIAS TLSYIAFFSIGLGPI TGVTSEIFPLQVRALGFVAG	
SEQ ID NO:22		AGLTVVGQHPDAKIPWAIGLSIAS TLAYVAFSIGLGPI TWVYSSEIFPLQVRALGCSLG	
SEQ ID NO:24		ISLTVID-HSERKLMWAVGSSIAMV LAYVATFSIGAGPI TWVYSSEIFPLRLRAQGAAG	
SEQ ID NO:26		TGLTVISRHPDEKITWAI VLCIFCIMAYVAFSIGLGPI TWVYSSEIFPLHVRALGCSLG	
SEQ ID NO:28		TGLTVVGRHPDAKVPWAIGLCIVS ILAYVSFFSIGLGPI TSVYTSEVFPLRVRALGFALG	
SEQ ID NO:30	481	VAVNRVVGVISIFFLPLSHKITTGGAFFLFGGIAI IAWFFFLTFLPETRGRITLNNMHEL	540
SEQ ID NO:18		-----	
SEQ ID NO:20		VASNRVTSAVISMTFLSLSKAITIGGSFFLYSGIAAVAVVFFFTCLPETRGRITLNNMCKL	
SEQ ID NO:22		VVANRVTSGVISMTFLSLSKAITIGGSFFLYSGIAALAWVFFFTYLPETRGRITLNNMSKL	
SEQ ID NO:24		VAVNRVTSVAVVSMVTSLSKAITIGGAFFLYCGIATVGWIFFFTVLPETRGRITLNNMEGS	
SEQ ID NO:26		VAVNRVTSVAVVSMVTSLSKAITIGGAFFLYCGIATVGWIFFFTVLPETRGRITLNNMSSL	
SEQ ID NO:28		TSCNRVTSAAVSMVTSLSKAITIGGSFFLYAGIAAIGWIFFFTFIPETRGLPLEEIGKL	

FIG. 2C



541  
 FEDFRWRESFPGNKSNNDENSTRKQSGNDKQVQLGETTSTTVTNDNH  
 -----TS-----  
 FGM-----PDTGMAEEAEEDA-AAKEKVVELPSSK-----  
 FGD-----TAAASESEDEPAKEK---KKVEMAATN-----  
 FGTFRSKSN--ASKAVENENG-----QVAQVQLG-----TNVQT  
 FGN-----TATHKQGAEEADDDAGEKKVEMAATN-----  
 FGM-----TDTAVEAQDTAT-KDKAKVGEM---N-----

SEQ ID NO:30  
 SEQ ID NO:18  
 SEQ ID NO:20  
 SEQ ID NO:22  
 SEQ ID NO:24  
 SEQ ID NO:26  
 SEQ ID NO:28

FIG. 2D